

A
COMMEMORATIVE ORATION,
DELIVERED AT
THE ENCÆNIA
IN
KING'S COLLEGE, FREDERICTON,
JUNE 25, 1857.

BY
WILLIAM BRYDONE JACK, D.C.L.

PROFESSOR OF MATHEMATICS AND NATURAL PHILOSOPHY.

FREDERICTON :

J. SIMPSON, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY.

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A COMMEMORATIVE ORATION.

THE Statutes of this University require that an Annual Oration be delivered within these walls, in praise of the Founders and Benefactors of the Institution. This year the duty thus prescribed devolves upon me ; and after others have so often and so eloquently addressed you upon the subject, you will readily give me credit for sincerity when I say, that I now appear before you with no small degree of diffidence.

In every civilized community,—in every country wherein man's proper place in creation and the dignity of his mission are understood and appreciated,—it is perceived that, apart from the divine inflatus whereby he becomes a living soul, his power and superiority over the rest of the animal creation are due to the peculiar gifts of reason and of language. By means of the former he is enabled to trace the mutual relations of things and their influences upon one another, and to speculate upon the mysterious connection between cause and effect : by means of the latter he can make known his motives, his thoughts and his feelings to his fellow-men. These peculiar faculties are possessed in different degrees by different individuals, but in all they are susceptible of great and marked improvement by cultivation. Seeing, then, that from and through them originate all advancement in knowledge, all pre-eminence in art, all the blessings of government, and all national changes, whether for the better or the worse, it is clearly of the utmost importance that every effort should be made not only to increase their efficiency, but also to give to their powers a beneficial and suitable direction. Hence it

comes that in all nations which have occupied a prominent place in the world's history and been instrumental in promoting human progress, Schools for intellectual discipline and instruction have received generous encouragement and support. Every body has heard of the Schools of the ancient Grecian Philosophers; and although these sages, for the most part, scorned that simply *useful* knowledge which is now too generally regarded as the only knowledge worth possessing, yet who would venture to assert that such illustrious men did not exercise a beneficial influence in their day and generation, and that their lofty speculations have not most materially contributed to the elevation of the human race?

Permanent and well-appointed establishments for imparting instruction in the higher branches of learning exert an advantageous and wholesome influence in many ways. In them are found embodied the wisdom and intellectual advancement of the age; and they serve as resting and rallying points, from which fresh inroads are to be made into the dark regions of the unknown. In them mind acts upon mind, and the intellect is not only invigorated, but prompted to take loftier and bolder flights. The student who has the high privilege of resorting to such an institution feels, on entrance, that he is not merely to acquire a certain portion of information, but that he is admitted a member of a learned community;—that he has become connected with that which is substantial and lasting, not merely with that which is artificial and transitory. He finds around him men who can appreciate his cravings for intellectual superiority, and the spirit of emulation fires him with the noble ambition to excel. Even if he cannot stand pre-eminent, it becomes a point of honor with him to strive to be no disgrace to the venerated body in whose ranks he has been enrolled.

If in these respects this University has hitherto failed in achieving aught that is great or glorious, the fault does not lie with the founders. To them still belongs the merit, and to them be accorded the praise of founding in New Brunswick an Institution with such high objects in view. The principle

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that in this country provision should be made for affording its sons an education not inferior to the demands of the age, was a sound one, and one worthy of the good men who succeeded in establishing it. This was the fundamental principle contained in their work, and one which they believed would live and bear fruit after they were dead and forgotten; and I trust it will long be regarded as a principle of such inestimable value that it ought never to be abandoned. If experience has proved some parts of their scheme to be faulty, these it becomes the duty and the privilege of their successors to amend: if it has been found that there are other parts which cannot be realized at once, but which require to be modified to suit persons, places and times, it may be an act of true wisdom, as well as of prudence, to alter these in conformity to such requirements. But, throughout every change, let the grand principle I have spoken of be preserved, and New Brunswick may yet have good reason for glorying in her University.

Every day of life supplies the means of self-culture and improvement to the wise; and the boundaries of human knowledge seem capable of almost indefinite extension, as mankind advance in their destined course of civilization and proficiency. Hence an education, such as that afforded by Colleges and Universities, is becoming every day more and more indispensable; and all thoughtful and clear-sighted men regard it as a mark of sound policy in a nation to establish and foster such Institutions, and provide them with the means of directing and encouraging in their onward career of study, those whose talents and acquirements promise to contribute to human progress.

Looking at the matter from the narrowest point of view, and taking into consideration only one department of study pursued within these walls, I beg you to consider for an instant how much really valuable information our young men may acquire from an experienced and able teacher regarding the Flora and the Fauna of our Province; and how much profit might accrue to them from a knowledge of its geological formations, and from an intimate acquaintance with the nature and properties

of the minerals underneath its surface ; and then, I would ask you, whether you can have any sympathy with those, who in their blind zeal for the total subversion of the College, virtually say to the youth of the Province, ' we will allow you no opportunity in this your native land of obtaining instruction on these subjects,—so far as it depends upon us, the great book of nature with all its wonders shall remain to you an illegible book,—so far as it depends upon us, your minds shall never be elevated, nor your reverential feelings excited by a systematic study and an intelligent contemplation of the marvellous beauty, the harmonious adaptation, and glorious majesty of the Works of Him whose kingdom ruleth over all.' It is sheer folly or shallow pretence, in the would-be-destroyers of the College, to say that our young men can acquire all the needful information on these and other useful subjects at our Academies or Grammar Schools. This, I am certain cannot be accomplished, unless in these as ample provision be made for the purpose of giving special instruction in the different departments of study as is at present enjoyed by this Institution. To obtain the higher, and therefore the most efficient and useful instruction in the various subjects comprehended in a liberal education, it becomes absolutely necessary to make a division of labour among the teachers; and science has now penetrated so deeply into the mysterious laws of nature, and can show by so many examples how these may be made subservient to the objects of art, or rendered available for practical purposes, that even the most clamorous for only *useful* learning are obliged to acknowledge the value of this higher teaching. Many arts and professions owe their very existence to Chemical Science alone ; and their onward progress towards perfection is dependent on the rapid flow of the tide of discovery in that science. That these are really useful matters on which instruction is needed, inasmuch as they can be made directly available and turned to profitable account in the ordinary business of life, the so-styled practical man will in all probability admit ; but then, he may perhaps be ready to ask, with a triumphant air, what benefit society is likely to derive from the vain theories

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and empty speculations of philosophers; and of what possible use the study at College of the loftier and painfully accessible branches of learning can be to mankind in general. This question can be most readily and satisfactorily answered by an appeal to facts;—by showing that most of the grand discoveries, which have contributed so largely to the advancement of the age, and which form at once its glory and its boast, have been the fruits of purely theoretical investigations. To these we owe the discovery of Electro-plating and gilding, and the beautiful art of Photography: to these the Miner is indebted for his Safety Lamp, which preserves him from harm while surrounded by an element of destruction, apparently uncontrollable by human power: and the discovery of the Electric Telegraph itself,—the most wonderful invention of modern times—can be traced, by a process of pure deduction, from the fundamental principles of abstract science.

Without, however, wearying you with illustrations of the value of theoretical science, even in a merely commercial and practical point of view, I may be permitted to ask, what could be apparently more remote from any *useful* application than the investigation of the curious phenomena of polarized light? Who could have believed that the narrow track of observation opened up by Malus, a young French officer of Engineers, as he looked through a prism at the windows of the Palace of the Luxembourg, would have taken such a direction as to furnish the Navigator with the means of detecting rocks and shoals in the depths of the ocean, and thereby preserving him from their lurking dangers,—as to enable the Chemist with unerring certainty and a rapidity previously undreamt of, to tell the amount of Sugar in the Cane, Beet, and Parsnip juice, at different stages in the growth of the plant, and thus to point out to the manufacturer when and on what article he can most economically bestow his labour,—as to assist the Engineer to discover the laws of tension in beams, and thereby give additional security to life and property,—as to provide the Astronomer with a new method of measuring unapproachable objects, and even of marking the passage of time, as well as of deciding

whether yon far distant shining speck which has just burst upon his astonished vision, owes its brilliancy to the light proceeding from itself, or borrowed from other bodies?*

These facts in the history of physical science, and others which might be adduced in almost endless profusion, afford incontrovertible evidence of the value of theoretical investigations; and prove that it would be presumption in any one to assert that such investigations are unworthy of attention, because being to all appearance of a purely speculative character, they can never lead to any useful result, or be brought to bear upon matters connected with the ordinary concerns of life. In this particular, the tide of public opinion seems now to be setting in the proper direction; and, it is beginning to be recognized at last, that in an advanced stage of civilization a competition in industry must be a competition in intellect; and that more and more encouragement must be given to the cultivation of theoretical science, as forming the basis and ground-work of all true progress.

It thus appears that instruction in the highest and most abstruse branches of learning ought not to be neglected, even though we should agree to measure the value of all knowledge by the standard adopted by those who maintain that science is only useful in so far as it can be rendered applicable to practice. This

* See Playfair's Lecture in the Records of the School of Mines. On the same subject, Mill, in his work on Political Economy, makes the following remarks:—"In a national, or universal point of view, the labour of the savant, or speculative thinker, is as much a part of production in the very narrowest sense, as that of the inventor of a practical art; many such inventions being the direct consequences of theoretic discoveries, and every extension of knowledge of the powers of nature being fruitful of applications to the purposes of outward life. The electro-magnetic telegraph was the wonderful and most unexpected consequence of the experiments of Ørsted and the mathematical investigations of Ampère; and the modern art of navigation is an unforeseen emanation from the purely speculative and apparently merely curious enquiry, by the mathematicians of Alexandria, into the properties of three curves formed by the intersection of a plane surface and a cone. No limit can be set to the importance, even in a purely productive and material point of view, of mere thought. Inasmuch, however, as these material fruits, though the result, are seldom the direct purpose of the pursuits of savants, nor is their remuneration in general derived from the increased production which may be caused incidentally, and mostly after a long interval, by their discoveries, this ultimate influence does not, for most of the purposes of political economy, require to be taken into consideration; and speculative thinkers are generally classed as the producers only of the books, or other useable or saleable articles which directly emanate from them. But when (as in political economy one should always be prepared to do) we shift our point of view, and consider not individual acts, and the motives by which they are determined, but national and universal results, intellectual speculation must be looked upon as a most influential part of the productive labour of society, and the portion of its resources employed in carrying on and in remunerating such labour, as a highly productive part of its expenditure."

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unit of measure is undoubtedly of great value; and affording as it does outward and visible manifestations of its worth, which can be appreciated equally by the learned and the ignorant, it has in our times, and more especially on this side of the Atlantic, come to be looked upon as the true and only standard. In the teachings at this University, every disposition has been shown to acknowledge its merits, by employing it as often as occasion permits. Nevertheless a very little reflection will be sufficient to convince us that it is partial and imperfect. For, independent of the transitory things of this world, knowledge is valuable for its own sake. In the acquisition of it we are following the dictates of both nature and revelation, since we are cultivating that special talent which God has entrusted to our keeping, and through which he has been pleased to give us superiority and dominion over the rest of his animal creation on this terrestrial globe. In all systems of education which pretend to educate man as man, it ought never to be forgotten that he is an intellectual and moral, as well as physical being; and that he has been so constituted by his Maker as to have wants and pleasures of a far more refined and exquisite kind than those which merely concern the body.

I have indulged in these somewhat trite remarks, because it is a very common thing in this Province, more especially in its chief commercial City, for parents, even in affluent circumstances, to excuse themselves for not giving their sons anything beyond a common Grammar School education, by saying that, as they are intended for men of business, this is quite sufficient for all their requirements; and that it would be folly, or at least an utter waste of time, to send them to College, since they could there gain nothing which would enable them to rise faster or higher in the world. Now this is a very erroneous and mischievous view to take of this very important subject, and one which every educated and right-thinking person ought to condemn; inasmuch as it ignores the intellectual and moral nature of man, excepting so far as conducive to his self-gratification and mere worldly aggrandizement. It in truth owes its origin to the same spirit of mammon as that

which renders man a foe to godliness ; and against which the earnest and pious minister of religion finds too much and too just cause for incessant complaint. It behooves us, therefore, to unite our efforts with those of the Clergyman, and resolve to check as far as lies in our power the far too prevalent idea that wealth is the real measure of worth ; that professions and trades exist merely for the sake of the riches which they draw in their train ; that the acquisition and accumulation of money is the grand end and aim of our existence ; and that for this purpose we are to toil and moil and waste our energies and even our lives. Such ideas tend to the degradation of man's higher and better nature, and of all those pursuits which are immediately connected with mind ;—they stifle the feelings of his spiritual existence, and deaden the consciousness of his belonging to a nobler and more excellent economy than that which is conversant with money-making, or the manufacture or sale of commodities. A taste for literature and science, so far from being incompatible with the necessary business of life, serves to relieve and sweeten its toil ; and the man who, happily for his own sake, has been imbued with it in early days, finds that he possesses within himself many sources of pleasure and enjoyment, which are unknown to and untasted by others who have been less fortunate in their education.

Before I conclude, it may be expected that I should offer a few remarks upon the Bill relating to King's College, which has been recently laid before the public, under the auspices of the College Council. This Bill merits attention, not only on account of the source from which it emanates, but also for the important alterations which it contemplates in the administration of the Institution. The scheme which it embodies may not probably correspond with the ideal which many of us may have formed ; but we ought to bear in mind that the Council may have considered the existence of the College at stake ; and that at a crisis when decided changes were expected, it would be well for the honor and educational prosperity of New Brunswick, if these could be so controlled as to prevent their assuming an excessive and violent character. Such being the

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position of affairs, it might be matter for grave consideration whether it would not be sound policy to concede some of our predilections and opinions in order that the vital principle, which acknowledges the necessity for such an institution, might be preserved, and the interest of the higher branches of education continue to be represented within the Province.

It would be out of place in me, on the present occasion, to examine in detail the various provisions of the Bill. The advantages likely to be derived from some of these, might be questioned; while of the measure as a whole, all circumstances considered, a favourable opinion may be entertained, as calculated to be productive of good. At all events, it seems to contain the germs of such a measure as ought to be generally acceptable, and as is most likely to secure for the College that fair and impartial hearing, which has long been denied it, and the want of which has stood so much in the way of its popularity and usefulness. Could public confidence be established, the inducements held forth by the Bill to all the young men of the Province, without distinction of rank or creed, to resort hither for a sound and liberal education, are of such a free and generous nature, as to lead one to anticipate from them the best and most satisfactory results. And if the different branches enumerated in the schedule of instruction, can be well and successfully taught within the specified time, sure I am that the Alumni of this University would rank second to those of few in the world.

I am aware that the scheme has been objected to in certain quarters, as having the effect of turning the College into what has been denominated a Godless Institution. The originators of the Bill, however, expressly declare that religious instruction is indispensable to a collegiate course of study, and that no youth can be well-educated who is not instructed in Religion as well as in Science and Literature. They quote with approbation, and emphatically endorse the sentiments of Professor Sedgwick, when he says:—"A Philosopher may be cold-hearted and irreligious, a Moralist may be without benevolence, and a Theologian may be wanting in the common charities of

life. All this shows that *knowledge* is not enough, unless feelings and habits go along with it, to give it meaning, and to carry it into practical effect. *Religion* reaches the fountain head of all these evils, and she alone gives us an antagonist principle whereby we may effectually resist them." It is, therefore, not only conceded by the framers of the Bill that man is a spiritual and accountable being, but also that all education is good, only so far as it proceeds upon this supposition; and they lay down the doctrine that "the Government, if not as representing the collective sentiments of all religious persuasions, yet as being at least the guardian of their equal rights, should require that the evidences, the truths, and the morals of christianity should lie at the foundation of all public Collegiate instruction, and the spirit of christianity pervade its whole administration. As to the teaching of what is peculiar to each religious persuasion, this clearly appertains to such religious persuasion and not to the Government."

The objection which I have been considering, would probably be deprived of any weight which it may still have in the minds of some religious and conscientious persons, if every christian denomination—and be it observed that all are respectfully recognized in the Bill—were allowed the option of connecting with this University a School of Divinity for the purpose of teaching its own peculiar religious tenets;—each of these schools to enjoy all the advantages and privileges conferred by such connection, but to be supported by the denomination which it represents. It might also be allowable for the Professor, or Professors, in each of these schools, to have a voice in conferring degrees in Divinity, on distinguished members of their own persuasion. Moreover, such an arrangement as that just mentioned, has something like a precedent to recommend it to favour. In the Scotch Universities, although the Established Church is alone admitted into immediate union, yet there the Faculty of Arts is wholly untrammelled by that of Theology, and its course of study is altogether independent, since it not only works apart, but owes its maintenance to funds drawn from an entirely separate source. Now, to the

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general, literary, and scientific curriculum, students of all religious persuasions are freely admissible, and the scheme and mode of instruction therein pursued would continue equally unaffected by having in legalised connection ten Schools of theology belonging to as many different christian denominations, as by having one. It is true that in these Universities the Professors in even the Faculty of Arts are required to subscribe some religious test more or less stringent ; and even in this land of latitudinarian principles it may still be permitted to doubt whether it would not be better that the Professors should, before instalment in office, be obliged to declare their belief in, at least, the inspiration and authenticity of the Holy Scriptures.

Whatever changes may be at any time effected, let us hope that the necessity for maintaining in New Brunswick an institution for affording its youth such instruction in the higher branches of learning as is commensurate with the demands of the civilization of the age, will never be overlooked ; and let us who are in any way connected with this University, Students as well as Professors, each in his place and to the best of his ability, strive to make it a worthy and lasting monument of the enlightened policy of its Founders.
